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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--------------------------------------------------------------------------------------------|-------------|----------------------|---------------------|------------------|
| 10/682,592 | 10/08/2003 | Gregory T. Thompson | 9415-9062 | 9770 |
| 7590 | 04/19/2005 | | EXAMINER | |
| Craig A. Summerfield BRINKS HOFER GILSON & LIONE P.O. BOX 10395 Chicago, IL 60610 | | | NGUYEN, THU V | |
| | | ART UNIT | PAPER NUMBER | |
| | | 3661 | | |

DATE MAILED: 04/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|------------------------|---------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 10/682,592 | THOMPSON ET AL. | |
| | Examiner | Art Unit | |
| | Thu Nguyen | 3661 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 25 January 2005.
- 2a) This action is **FINAL**. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 18-37,39-55 and 57-59 is/are pending in the application.
 - 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 18-37, 39-55, 57-59 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|-------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____. |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____. | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| | 6) <input type="checkbox"/> Other: _____. |

DETAILED ACTION

The amendment filed on January 25, 2005 has been entered. By the amendment, no claim is amended, and claims 18-37, 39-55, 57-59 are now pending in the application.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 18-24, 26, 28-34, 36, 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Saito et al (JP 11-078656) (using Saito et al (US 6,208,249) as translation) in view of Sakai et al (US 6,253,133) (enclosed IDS) and further in view of Weib (DE 198 26 391) (enclosed IDS).

As per claim 18, 22-23, Saito teaches a vehicle passenger detection system. The system comprises: an occupant detection sensor operable to transmit energy into the seating area (col.12, lines 14-19; col.18, lines 31-38); Saito does not explicitly disclose a moisture resistant cover adjacent to the sensor. However, Sakai notes the effect of moisture on the accuracy of the sensor (col.10, lines 37-43), and Weib teaches placing a moisture resistant cover to the sensor (col.2, lines 3-10). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to place the moisture resistant cover adjacent to the sensor of Saito in order

to enhance accuracy in detecting the passenger position as suggested by the combined teaching of Sakai and Weib.

As per claim 19-21, Saito teaches including electrodes in the occupant detection sensor (col.11, lines 61-67). Further, placing a suitable number of electrodes in detecting passenger position, and using plastic cover as moisture resistance textile would have been both well known and obvious design choice.

As per claim 24, Saito teaches implementing the sensor in a seat and connecting the sensor with an airbag control system (col.15, lines 60-63; col.12, lines 29-33).

As per claim 26, Saito teaches connecting the sensor to a seat cushion (col.11, lines 61-67; col.12, lines 1-13). Further, using a cushion made of soft insulator material would have been well known.

As per claim 28-34, 36, 39, refer to claims 18-24, 26 above.

3. Claims 25, 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Saito et al (JP 11-078656) (using Saito et al (US 6,208,249) as translation) in view of Sakai et al (US 6,253,133) and further in view of Weib (DE 198 26 391) (enclosed IDS) and Okamura et al (US 6,490,515).

As per claim 25, 35, Okamura teaches a moisture sensor for detecting wet seat (col.4, lines 43-48). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to implement a well known moisture sensor adjacent to the system of Saito order to detect moisturizing status of the seat. Further, as to claim 35, implementing a well known moisture sensor on either side from the cover would have been both well known and obvious design choice.

4. Claims 27, 37, 40-55, 57-59 are rejected under 35 U.S.C. 103(a) as being unpatentable over Saito et al (JP 11-078656) (using Saito et al (US 6,208,249) as translation) in view of Sakai et al (US 6,253,133) and further in view of Weib (DE 198 26 391) (enclosed IDS) and Ekman et al (US 5,927,817).

As per claim 27, 37, Ekman teaches including at least one aperture at a low portion of an upper surface of the cushion (col.3, lines 58-60); moreover, implementing the aperture at a specific location where liquid tends to be accumulated requires only routine skill in the art. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to open an aperture at the low point of the cushion near the sensor of Saito in order to facilitate quick draining of liquid to prevent soaking of water to the sensor.

As per claim 40-42, 45, 47, 49-50, 52, 54-55, 57-59, refer to claims 18 and 27, 26, 19 above.

As per claim 43-44, 48, 51, Ekman teaches a plurality of apertures 26 (fig.3).

As per claim 46, 53, using a weight sensor embedded in the seat cushion for detecting occupancy would have been well known.

Response to Arguments

In response to applicant's argument on page 3, last paragraph and on page 4, lines 1-8, first, Sakai does not only teach the effect of humidity in the atmosphere or the air but also suggest that the wetness, in general, affects the accuracy of the sensor (Sakai col.1, lines 58-65; col. 4, lines 5-17, lines 29-37); second, although Sakai does not explicitly disclose using a moisture cover to prevent the incorrectness caused by the wetness, an ordinary person skilled in the art at the time the invention was made would be motivated to find a way to prevent the sensor from being surrounded with the moisture or wetness such as using moisture insulation material to cover the sensor. Third, the examiner does not recognize that Weib teaches that the sensors relying on transmitted energy are undesired in page 1, lines 15-page 2, line 5 as cited by applicant. The teaching in page 1, lines 15-page 2 line 5 of Weib teaches the use of a middle electrode to prevent magnetic field, however, the sensor discussed in page 1, second paragraph of Weib is just prior art and is not used in the invention taught by Weib; therefore, Weib does not mention or teach away using sensors that transmit energy. Although Saito discloses that using weight sensor is undesired in col.2, lines 12-22 as pointed out by the applicant, the sensor elements utilized by Saito have similar components as the sensor disclosed in Weib; for example,

the sensor taught by Saito still includes electrodes embedded in the vehicle seat under a covering material or in a cushion (Saito col.11, lines 61-67; col.12, lines 1-13), it is noted that these covering material or cushion material are well known to be non-conductive materials and are well known to play the same role as dielectric materials, Saito's sensor further relies on changes in capacitance caused by the passenger occupation of the seat (col.14. lines 54-62) in detecting the existence of the passenger; more importantly, Saito notes that wetness changes the property of electrode (col.22, lines 8-11); the elements and characteristics (ie. the electrodes, the dielectric materials surrounding the electrodes, and the change in characteristic of the electrodes caused by wetness) are similar to the elements used in Weib sensors in which the electrodes 2 (Weib fig.1) are surrounded with water repellent dielectric materials 3 (Weib fig.1) (Weib page 3, third paragraph). An ordinary person skilled in the art at the time the invention was made would look for the known water-repellent dielectric textile material 3 (fig.1) of Weib to cover the electrodes 5a (fig.27A) of Saito in order to prevent the electrodes 5a (fig.27A) of Saito when only smaller size electrodes are available. Moreover, if the applicant asserts that the use of water repellent material is not desirable for energy transmitted devices as taught by Saito and Weib, independent claim 18 at least does not show or teach any element that make the use of the water repellent material desirable in contrary to the disclosure of Saito and Weib.

In response to applicant's argument on page 4, last paragraph, through page 5, first paragraph and second to the last paragraph, first, Sakai does include teaching liquid on the seat as explained above. Second, Ekman at least teaches a plurality of low points 26 (fig.3), etc. on the lower seat assembly for drawing moisture (Ekman col.3, lines 31-39, lines 65-66; col.4, lines

1-2), those point through which moisture is drawn away serve as a drain of moisture stated in claims 49 and 55; independent claims 49 and 55 does not teach how the mold and odors be avoided. Providing apertures such as aperture 26 (fig.3) at a location when drainage of water or liquid is desired requires only routine skill in the art. Fourth, Weib suggests use of water repellent textile as pointed out by applicant. However, in situations where there might be serious water pill, selecting available cushion of Ekman with aperture for draining moisture for minimizing moisture accumulated around the textile used to protect the sensor taught by Weib when extra protection is required requires only routine skill in the art.

In response to applicant's argument on page 5, third paragraph, plastic material is a very well known moisture resistance material. Selecting such the plastic material for moisture resistance would have been obvious matter of design choice.

In response to applicant's argument on page 5 on claim 25, and 35, claims 25 and 35 of the present application does not highlight the difference between the sensors of the present application and the sensor capable of detecting wet seat taught by Okamura. Implementing the dielectric sensor of Okamura or implementing the pair of dielectric sensor and pressure sensor of Okamura near the sensor taught by Saito would provide the wet seat status of the seat taught by Saito.

In response to applicant's argument on page 5, on claim 26 and 36, claims 26 and 36 does not disclose where the soft insulator be installed. Furthermore, embedding the sensor at a suitable position in the cushion requires only routine skill in the art.

In response to applicant's argument on page 5, refer to explanation for argument on page 4, last paragraph above.

In response to applicant's argument on page 5, last paragraph through page 6, first paragraph, Ekman does teach a plurality of apertures 26 (fig.3).

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thu Nguyen whose telephone number is (571) 272-6967. The examiner can normally be reached on T-F (7:30-6:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Black can be reached on (571) 272-6956. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

April 12, 2005


THU V. NGUYEN
PRIMARY EXAMINER